

**Figure S1:** Nucleotide sequences alignment of the native SM14est protein codon usage (SM14est-WT) and the *E. coli* codon optimised synthetic version of the gene (SM14est-OPT). Darker boxes indicate identical nucleotides, while the lighter boxes indicate differences. Features such as the signal peptide sequence, and the engineered His<sub>6</sub> tag and restriction sites (*Nde*I and *Xho*I) are indicated accordingly.